

CASE STUDY
OLS ENERGY – CALIFORNIA
Industrial BWRO System USA

Introduction

In January 2007, Pure Aqua successfully supplied a skid-mounted Industrial Brackish Water Reverse Osmosis (BWRO) system to produce 100gpm of product at 77°F using (20) 8"x40" Hydranautics ESPA1 membrane elements, (4) 5M FRP pressure vessels, SS multistage pump, microprocessor based controls and a digital conductivity and ORP read out, 460V/3ph/60Hz



Systems & Process

Feed water to the system is from beach-well with raw water TDS of about 1,000 PPM. The system design was based on high rejection TFC spiral wound membranes. The Brackish Water Reverse Osmosis system was selected from our RO-400 Series, model number TW-144K-4580.

The overall plant process is briefly described below.

- Pre-treatment of raw water includes the following:
 - Antiscalant dosing to minimize the precipitation of sparingly soluble sulfate salts
 - Sodium bisulfite dosing to remove free chlorine in the feed water
- Brackish Water Reverse Osmosis (BWRO) unit consists of:
 - 5-micron cartridge filters to reduce feed water Silt Density Index (SDI) and to limit the SS to 5-micron size
- Advanced microprocessor control panel

Performance

- From a feed TDS of about 1,000 mg/L at a temperature range of 19°C and 27°C, the BWRO skid produces 100gpm of drinking water with TDS less than 50mg/L.
- Since the time of its start-up in January 2007, the plant has been running smoothly with minimal trouble-shooting.

Plant Design Summary

Location:	Chio, California, USA
Project:	OLS ENERGY - CHINO
Application:	Potable & General Use
Total Plant Design Capacity:	100gpm
Start Up Date:	2007
Feed Water Source:	
Typical Operating Conditions:	
▪ TDS feed:	
▪ Maximum Design Pressure:	300 psi
▪ Overall System Recovery:	75%
▪ Feed SDI:	Less than 3
Membranes:	TFC 8" High Rejection
Chemical Treatments:	* De-chlorination
	*Antiscalant Injection
Plant Product TDS:	General Use = less than 50 mg/L